

System Specification

HCI, CCP, DDP Open System Pathfinder, Thor DP1

Checkout and Launch Control System (CLCS)

84K00302-023

HCI/CCP/DDP Open System Pathfinder Assessment

March 17, 1998

Version 2.0

HCI/CCP/DDP Pathfinder

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1. Introduction

1.1 HCI/CCP/DDP Pathfinder Overview.

The purpose of this pathfinder is to determine what difficulties/problems will occur if a decision is made to switch vendors after the acquisition of the HCI/CCP/DDPs. The pathfinder will provide reduction risk and help to minimize life cycle costs by performing an evaluation on the alternatives for the HCI/DDP/CCP hardware and assessing the portability of the software. It is not the intent of this pathfinder to provide an extensive evaluation of alternatives but to collect data on alternatives if required in the future. It will also help to establish a hardware baseline for the system.

1.2 HCI/CCP/DDP Pathfinder Concept

The main focus of this pathfinder is to perform a software port and to identify any portability problems using the Thor Release.

- Post Thor delivery effort
- Approximately a 2 month effort
- Performed a software port and test to an alternate vendor platform
- Port the HCI, the DDP and the CCP software
- If required, vendor field support will be requested.
- Collect metrics on effort spent for each step (see Figure 1-1)
- Document lessons learned
- Document any major problems

The evaluation portion of this pathfinder will evaluate alternate vendors for the HCI platform and for the CCP/DDP platform. The evaluation will cover topics including: the required support for any COTS S/W packages, the minimum required hardware specs, any known potential porting issues such as UNIX real-time extensions, etc.

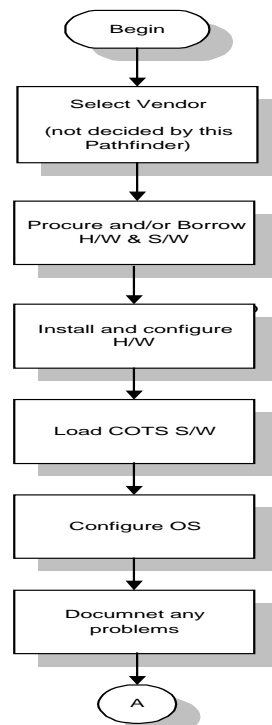
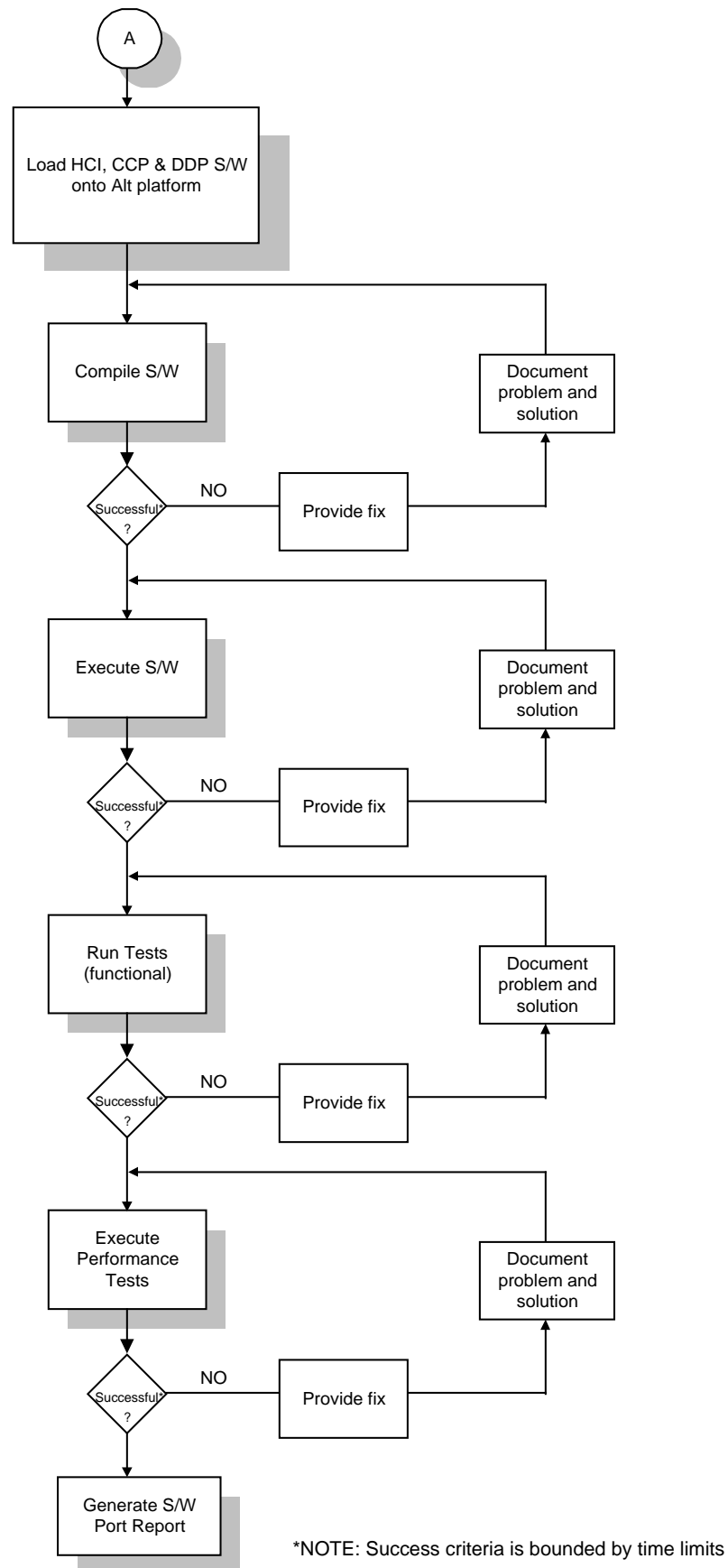


Figure 0-1 Software Port Methodology

**Figure 0-2 Software Port Methodology (cont)**

1.3 HCI/CCP/DDP Pathfinder Specification

1.3.1 Statement of Work

- Provide a list of and limited evaluation of UNIX workstations CPUs for the HCI job. This should include but not be limited to support of required COTS software, cost, and porting issues.
- Provide a list of and limited evaluation of UNIX servers CPUs for the CCP/DDP job. This should include but not be limited to support of required COTS software, cost, and porting issues.
- Utilize the Redstone Release to perform a partial software port during the Thor time period (This effort will support the Vendor Selection Team)
- In the first 2 months after the Thor Delivery, Atlas perform a port to another vendor (DEC or, HP or SUN HP).

1.3.2 Requirements

None

1.3.3 Redstone Release Portability

CSCI	CSC
System Services CSCI	
	Network Services
	Interprocess Communications
	System Message Services
Application Services CSCI	
	FD Services
	Interapplication Communication Services
	User Display Services
	Data Path Services
Data Distribution & Processing CSCI	
	Data Distribution
System Viewers CSCI	
	FD Viewer
	System Message Viewer
Command Support CSCI	
	Command Processor
	Command Management

Table 1 - Candidate List of Redstone Release CSCs to be compiled on an alternate platform

1.3.4 Thor Release Portability

CSCI	CSC
System Services CSCI	
	Network Services
	Logging Services (local & SDC)
	Interprocess Communications
	System Message Services
	Timer Services
	Initialization & Termination Services
	Display Services
	Utility Services (print, etc.)

CSCI	CSC
Application Services CSCI	
	FD Services
	Subsystem Services
	Interapplication Communication Services
	User Display Services
	Data Path Services
	Data Fusion Services
	End Item Manager Services
	Prerequisite Control Services
Data Distribution & Processing CSCI	
	Data Distribution
	Data Health
	Data Fusion
	Constraint Management
System Viewers CSCI	
	Constraint Viewer
	FD Viewer
	System Message Viewer
Command Support CSCI	
	Command Processor
	Command Management
System Control CSCI	
	System Integrity
	Ops Configuration Manager
CLCS Development Environment CSCI	
	Regression Test Tools
System Build CSCI	
	Platform Build
	Subsystem Build

Table 2 - Candidate List of Thor Release CSCs to be Ported

1.4 HCI/CCP/DDP Pathfinder Hardware Diagrams

1.4.1 H/W Configuration with Redstone Release

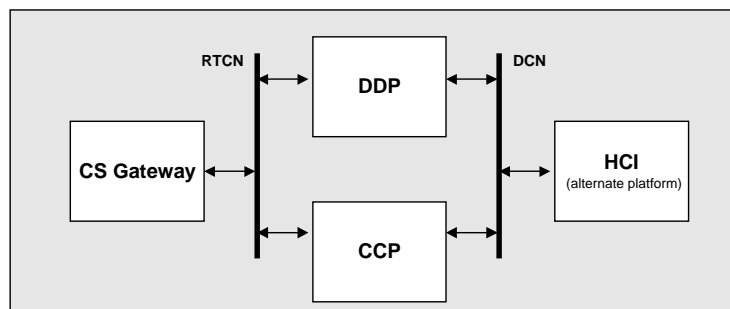


Figure 0-3 H/W Configuration for Redstone portability effort

1.4.2 H/W Configuration with Thor Release

The software port will be performed on a homogeneous system consisting of the same alternate vendor for all three platforms.

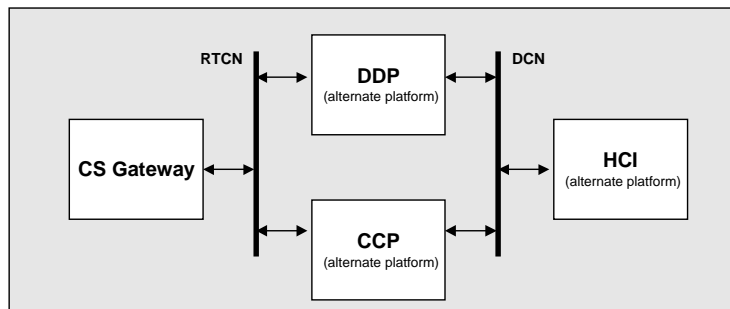


Figure 0-4 H/W Configuration for Thor portability effort

1.5 HCI/CCP/DDP Pathfinder Deliverables

Documentation:

Deliverable	Document	Code
HCI/CCP/DDP Alternate Platform Evaluation <ul style="list-style-type: none"> DEC evaluation HP evaluation SUN evaluation 	X	
HCI/CCP/DDP Software Port Report (Redstone Release)	X	
HCI/CCP/DDP Software Port Report (Thor Release)	X	

Software:

Deliverable	Document	Code
HCI/CCP/DDP Ported Software		X

1.6 HCI/CCP/DDP Pathfinder Assessment Summary

1.6.1 Labor Assessments

The total Labor Costs required to provide this capability are summarized in the following table;

No.	CSCI/HWCI Name	Thor LM	Changes covered in
1	List and evaluate alternate platforms	2.0	
2	Port COTS Software and a portion of the Redstone Release software to an alternate platform	2.0	
3	Perform Software Port <ul style="list-style-type: none"> Install and configure alternate platforms 	4.0	

No.	CSCI/HWCI Name	Thor LM	Changes covered in
	<ul style="list-style-type: none"> Port software to alternate platforms Test Generate Software Port Report 		
	TOTAL	8.0 LM	

1.6.2 Hardware Costs

The total Hardware Costs required to provide this capability are summarized in the following table:

Item number	Name	Unit Cost	Qty	Total	Assumptions
1	HCI alternate platform (DEC, HP, SGI, SUN)		4	\$65K	borrow from Performance Group
2	CCP/DDP alternate platform		2	\$0	Borrow from vendor
		Total:		\$65K	

1.6.3 HCI/CCP/DDP Pathfinder Procurement

None

1.7 HCI/CCP/DDP Pathfinder Schedule & Dependencies

1.7.1 Schedule

Task Name	Start	Finish
Thor Assessment Kickoff		07/25/97
Concept Panel Internal Review		09/09/97
Concept Panel		09/11/97
Thor Development		
Requirement panel		n/a
Design Panel		n/a
Monthly Status		
Port COTS Software to alternate vendor platform	10/20/97	11/07/97
Partial port of Redstone software to alternate platform		01/27/98
Software Port Report Complete (Redstone Release)		02/27/98
Alternate Platform Evaluation		02/27/98
Port and test HCI/CCP/DDP software (post Thor Delivery)	04/06/98	06/08/98
Software Port Report Complete (Thor Release)		06/19/98

1.7.2 Dependencies

No.	Dependency Area	Dependency	Need Date
1	Performance	Performance H/W resources (COTS S/W port)	10/20/97
2	COTS S/W	OS software	10/20/97
3	Performance	H/W resources from performance (alt vendor platforms)	During COTS and Redstone S/W ports
4	COTS H/W	Alternate vendor server platform (on loan)	04/06/98

No.	Dependency Area	Dependency	Need Date
5	Gateway	CS gateway	04/06/98 - 06/08/98
6	Performance	H/W resources from performance (alt vendor platforms)	04/06/98 - 06/08/98

1.8 HCI/CCP/DDP Pathfinder Simulation Requirements

None

1.9 HCI/CCP/DDP Pathfinder Integration and System Test

Once the software has been successfully compiled on the alternate platform and executes, testing will be performed to further verify a successful port.

- Possibility of utilizing COTS regression test tools will be evaluated
- Possibility of executing stress tests will be evaluated

1.10 HCI/CCP/DDP Pathfinder Training Requirements

None

1.11 HCI/CCP/DDP Pathfinder Facilities Requirements

None

1.12 Travel Requirements

None

1.13 HCI/CCP/DDP Pathfinder Action Items/Resolution

None

2. CSCI Assessments

None

3. HWCI Assessments

None

4. COTS Products Dependencies

4.1 SW Products Dependency List

Product Name	Quantity Needed	Need Date
Alternate vendor COTS Software	1	10/20/97

4.2 HW Products Dependency List

Product Name	Quantity Needed	Need Date
Alternate vendor HCI Platform	1	10/20/97
Alternate vendor CCP/DDP Platform	2	04/06/98